Executive Summary

FIS 00-007: Tatlawiksuk River Salmon Weir Continuation

Investigators: Commercial Fisheries Division of the Alaska Department of Fish and Game, Kuskokwim Native Association.

Geographic Area: Kuskokwim River **Information Type:** Stock Status / Trends

Issue:
This project contributes to:

- determining chinook, chum and coho salmon distribution and abundance in the Kuskokwim River Region;
- estimating the entire Kuskokwim River chum and coho salmon escapement through recovery of mainstem mark-recapture tags;
- and assessing the effectiveness of management actions such as gear restrictions, fishing schedules and fishery closures.

Objectives:

1. Provide daily in-season reporting of escapement data to management staff.
2. Monitor environmental variables such as water level and water chemistry.
3. Serve as a platform for:
    a. Recovery of tagged salmon deployed from the *Kuskokwim River Chum, Sockeye and Coho Salmon Stock Assessment* project (partially funded by FIS).
    b. Monitoring the proportion of tagged to untagged salmon in the Tatlawiksuk River from the *Kuskokwim River Chum, Sockeye and Coho Salmon Stock Assessment* project (partially funded by FIS).
    c. Monitoring the proportion of tagged to untagged salmon in the Tatlawiksuk River that are deployed from the *Kuskokwim River Chinook Radio Telemetry* project (partially funded by FIS).
    d. Monitoring for straying of fish tagged in the *Holitna River Chinook, Chum and Coho Salmon Escapement Monitoring* project (FIS 01-141).
    e. Hosting student interns as part of the KNA *Student Internship program* (FIS 01-088).
4. Determine the run timing and total annual spawning escapements of Tatlawiksuk River chinook, chum and coho salmon from 15 June to 20 September.
5. Determine the age, sex and length composition for the total annual spawning escapements of Tatlawiksuk River chinook, chum and coho salmon.

Methods:
Investigators will install a resistance board weir on the lower Tatlawiksuk River. The weir will direct upstream migrating adult salmon through passage areas where fish will be counted. A live trap and passing chute installed near mid-channel will allow fish to pass upstream. A secondary passage chute will also be installed expedite passage. The live trap will also serve as a platform for sampling salmon for scales, sex and length information. The scales will be aged post-season and the data will be analyzed to estimate to the age-sex-length composition of the chinook, chum and coho salmon spawning populations in the Tatlawiksuk River. Investigators will also record

daily water temperature, water level, and weather conditions. Local technicians hired by KNA will operate the project along with a lead crew member provided by ADFG.

The project will also serve as a platform to host students from the KNA Student Internship Program (FIS 01-088), and to recover tags deployed as part of other research projects in order to determine travel time. By serving as a tag recovery site with known total salmon passage, the Tatlawiksuk River weir will contribute to the information base needed to validate operational assumption of the mark-recapture projects and to estimate total abundance of chinook, chum and coho salmon in the Kuskokwim River drainage.

Products:
The annual report will be published in the Regional Information Report series of ADFG/CF and distributed to the Office of Subsistence Management, Fisheries Information Services Division, as was done following the 2001 season.

Experience of Investigators:
Douglas Molyneaux is the Kuskokwim Area Research Biologist for ADFG/CF. Molyneaux has an M.S. in Fisheries Science. He has been working in the Kuskokwim Area since 1989 and has been involved with the Tatlawiksuk River weir project since the project inception in 1998. He has also been involved with many other successful cooperative projects.

Wayne Morgan is the Director of Natural Resources and Subsistence for KNA and is a resident of Aniak. Mr. Morgan has been involved with the George and Tatlawiksuk River weir projects since he began working with KNA in 1998. Mr. Morgan is also involved in several other cooperative fisheries projects. In addition, as of this writing, KNA is in the final stages of hiring a professional Fisheries Biologist through the OSM sponsored Fishery Partnership program, which will enhance the capacity of KNA to become more involved in the analysis and report writing aspects of the project.

Partnership/Collaboration:
KNA and ADFG have been cooperators on salmon escapement enumeration projects on the George and Tatlawiksuk Rivers since 1996 and 1998, respectively. Oversight of field operations is shared between the KNA and ADFG/CF. Both organizations make use of the weir data for salmon management deliberations. ADFG/CF takes the lead in data management, data analysis and reporting; however, more of this responsibility is expected to shift to KNA pending the proposed addition of a fishery biologist position to the KNA staff.

Budget:

Total Project Cost:	State	Non-Agency	Total
FY2003	$53,000	$34,000	$87,000

Local Hire:	State	Non-Agency	Total
FY2003	a	$14,620	$14,620

[a] Up to $24,000 may be used for local hire through the Workplace Alaska hiring system